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SELECTION FROM THE RECORDS OF THE BOMBAY GOVERNMENT.

No. LXVII.—New Series.

REPORT

ON THE

COTTON GIN FACTORY

IN THE

DHARWAR COLLECTORATE,

FOR THE HALF-YEAR ENDING MAY 31, 1862.

WITH LETTERS

FROM THE

REVENUE COMMISSIONER, S.D.

AND

SURGEON MAJOR FORBES,

SUPERINTENDENT, COTTON GIN FACTORY, DHARWAR.

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Bombay:
PRINTED FOR GOVERNMENT
AT THE EDUCATION SOCIETY'S PRESS, BYCULLA.

1862.

Price Eight Annas.

BOMBAY BRANCH

OF THE

Royal Asiatic Society.

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No. 2535 of 1862.

Revenue Department.

From the Revenue Commissioner, S. D.,

To the Acting Chief Secretary to Government.

Sir,

I have the honour to submit, for the purpose of being laid before Government, a letter from Surgeon Major Forbes, Superintendent of the Cotton Gin Factory in the Dharwar Collectorate, giving cover to the Half-yearly Report of the Factory for the term ending 31st May last, during which it was continued under the immediate management of Mr. Courpalais, its Mechanical Superintendent.

2. In forwarding Dr. Forbes' letter, Mr. Gordon, Acting Collector of Dharwar, writes* as follows:—

"2. I take this opportunity of stating my conviction of the necessity for speedily applying some remedy for the evils which the wholesale adulteration of the Dharwar grown exotic cotton will certainly produce.

"3. I am sure that a moderately stringent law could be worked successfully and without oppression, and if its operation were restricted to three years, I think all the objects for which we contend would have been secured.

"4. Every rise in price causes an increase of adulteration; accordingly I have been told that the cotton sold during the past season was much of it execrable.

"5. So far has it now gone that neither native merchants nor cultivators can be seriously blamed; pure seed can hardly be procured, and year after year the proportion of inferior cotton increases.

"6. The fact is that anything that can be called cotton is readily saleable at the highest market rate. I know that rejected samples are almost invariably instantly resold without loss. Both the cultivators and the native merchants have thus a direct and immediate interest in increasing the adulteration.

* Letter No. 1005 of 3rd September 1862.

"7. It is unreasonable to expect these men to look forward beyond the present time; but there can be no doubt that the course they are pursuing will end in destroying the trade, and when a fall of prices does take place, they must suffer severely.

"8. In my opinion nothing but the direct interference of Government can prevent this. European agency cannot prevent it, for the agents must execute the orders they receive, and must buy the best cotton they can procure in the market. The mere personal influence of the Collector and his Assistants cannot affect the present enormous trade, though it was, no doubt, sufficient in its earlier stages. A rise of prices tends rather to increase adulteration."

3. The extent to which the adulteration of the cotton, on which the credit of the Dharwar cotton market depends, with inferior staple is described in paragraphs 45 and 46 of Dr. Forbes' letter, and in his 47th paragraph he briefly adverts to the consideration which forms, I think, the only reasonable ground for the interference of the legislature to prohibit the intermixture of good and inferior cotton while being prepared for the market. Were the interests of individuals only concerned, I should be inclined to leave them to take care of them; but there is no doubt that the future well-being of a whole country suffers by the practice described by Dr. Forbes, which is one that the efforts of individuals are not likely to correct.

4. Dr. Forbes in his 51st paragraph points to the desirableness of encouraging European agency as one of the means of correcting the mischievous tendency of the conduct of native dealers, who, reckless of every conideration but that of immediate profit, are ready to make up and sell any strash out of which, under the name of cotton, they can make money. But I fear that the only European agents that we can expect to undertake business in the markets of the Dharwar cotton country are the agents of cotton merchants who will buy to sell again, and not the agents of the manufacturers, whose only object it would be to obtain the staple best suited to their purposes. Were the *manufacturers* or *their* agents to enter the markets at the place of production, I have little doubt that the cultivation of inferior cotton in lands capable of growing the best would be completely checked, and the adulteration of the superior sort be put an end to. But notwithstanding that one of the latest books on political economy condemns the ordinary maxim of merchants that "their legitimate function is to buy in the cheapest market and sell in the dearest, in obedience to the law of supply and demand," by declaring that it is but the function of rats and other

base animals to support themselves by having regard only to laws of demand and supply, and that "the distinction of humanity is to live by those of *right*;" and though the author of the same book, in defining the duty of a merchant, holds that one of the two cardinal points of that duty is to ensure "the perfectness and purity of the thing provided" by him, "so that rather than consent to any deterioration, adulteration, or unjust and exorbitant price of that which he provides, he is bound to meet fearlessly any form of distress, poverty, or labour which may, through maintenance of these points, come upon him," I see too much reason to fear that the agent of a merchant (of whatever nation) who buys to sell again will, if he finds that he can make more money profit by dealing in rubbish than in pure cotton, consider himself bound rather by what the author quoted above regards as the instinct of rats than by what he holds up as the duty of man.

5. I am therefore obliged to agree with Messrs. Gordon and Forbes that the action of the law is necessary to prevent the adulteration of cotton, on the purity of which so many interests depend.

6. In the preamble of Regulation III. of 1829, the evil which it was intended to counteract is described to be the "numerous and various kinds of frauds committed in the *packing* and *preparation* of cotton for sale, to the great detriment and injury of the trade in that staple commodity;" but by a manifest and absurd oversight, the law passed to remedy this evil is so worded that no offence is declared to have been committed till the adulterated cotton is *sold* or *offered* for sale, though there can be no doubt that cotton is not packed in the manner described except for sale thereafter, and that the evil described in the preamble of the law has been completed in its packing.

7. It would, I think, be an unfair straining of the intention of Sections 425 and 426 of the Penal Code to hold them applicable to the owner of originally valuable cotton prepared for the market by a process "diminishing its value or utility," when that process consists only in mixing with it inferior cotton, notwithstanding the extraordinary latitude given to the former of those sections by the 2nd "explanation" annexed to it. But I am not prepared to deny that a cotton cleaner who assists the owner of cotton in adulterating it in the manner described by Dr. Forbes, will render himself amenable to the punishment of *abetting* the offence described in Regulation III. of 1829, under Section 116 or 120 of the Penal Code, which sections do not require proof of the completion of the offence abetted to make acts of abetment or concealment punishable.

8. Dr. Forbes, in his 55th to 58th paragraphs, states his opinion as to the nature of the local enactment which his experience has led him to consider desirable.

9. The information with which Dr. Forbes' letter abounds is so full that I should think it presumptuous in me to attempt to add any obervations of my own. Government will, no doubt, notice with interest the manner in which, in his 20th paragraph, he accounts for the improvement of the character of the exotic cotton from the disappearance (owing to one of the fluctuations of cultivation) of all seed except that of first-rate quality. The suggestion made in his 23rd paragraph is a very valuable one.

10. The particular attention of the Madras Government and of the Commissioner in Mysore might with advantage be drawn to the 34th and few following paragraphs of Dr. Forbes' letter.

11. Since my receipt of this letter, Dr. Forbes has made arrangements for visiting some iron founderies in this country, for the purpose of ascertaining if it will not be possible for him to obtain from them such castings for the gins made up in his workshops as will obviate the expense and delay of importing them from England.

I have the honour to be,

Sir,

Your most obedient Servant,

W. HART,

Revenue Commissioner, S. D.

Poona, 10*th October* 1862.

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No. 33 of 1862.

To the Collector of Dharwar.

Sir,

In forwarding the enclosed report by the Mechanical Superintendent of the operations of the Dharwar Cotton Gin Factory for the half-year ending 31st May last, I beg to add the following remarks with reference to the causes which have of late years led to the greatly increased cultivation of American cotton in these districts, and the measures which appear to me to be required to secure a still further extension.

2. A brief notice of the progress made from the first efforts to introduce this description of cotton up to the present time will serve to explain these remarks, and may also be of use in throwing some light upon the causes which led to the failure of similar attempts in other districts.

3. The first experiments were instituted as far back as 1829 under the late Dr. Lush, and were continued up to 1836 when they were abandoned.

4. The successes of these experiments were reported by Dr. Lush as "various," but he seems to have attributed the final failure to the want of proper machinery. The specimens of the produce sent home were reported as "much injured in cleaning," the machines employed being the Whitney saw-gins as imported from America. With reference to this point Dr. Lush himself states:—"Much time has been lost by assuming that the Whitney saw-gin ought to answer here because it does in America. Of this there is now, I believe, no chance. We do require a machine to effect for our cotton what Whitney saw-gin has done for America, but the machine is yet to be invented."

5. In 1840 the Court of Directors resolved upon resuming endeavours to introduce a superior description of cotton into India, and for this purpose obtained the services of experienced planters from America. Supplies of American cotton seed were also procured and sent on to Bombay.

6. In the monsoon of the following year the Collector of Dharwar, Mr. Shaw, obtained a sufficient quantity of this seed to sow ten acres of land, but owing, it was supposed, to deterioration which the seed had undergone,

the proportion of plants that appeared was comparatively small and the produce very scanty, amounting in all to 41 lbs. of clean cotton, or 4 lbs. per acre.

7. In the following year the experiment was repeated on a small scale, with somewhat similar results, and whilst the crop was on the ground, Mr. Mercer (one of the American planters above alluded to) arrived to take charge of the Dharwar experiments.

8. From Mr. Mercer's report two points would appear to have been established from the above trials—*First*, that under certain conditions (which, however, were not perfectly understood) the plant would grow and thrive in these districts; and *secondly*, that its produce was superior to that of the indigenous cotton.

9. In the following year (1843-44) operations were greatly extended, experimental farms were established, fresh supplies of seeds were obtained and distributed to the ryots, and the total quantity sown amounted to 545 acres. In the succeeding years up to the season of 1847-48 the cultivation increased rapidly, attaining in the latter season to 20,502 acres.

10. This result at first sight appeared highly encouraging, but it subsequently transpired that it had only been attained under a system of pressure, brought to bear upon the cultivators through the native Government officials, for on the removal of this pressure during the following year the cultivation fell at once to 3,351 acres.

11. Mr. Mercer, whose emoluments were dependent upon the successful introduction of this description of cotton, left the districts finally in the beginning of 1847. Mr. Shaw also went to England in the end of the same year; and Mr. Goldfinch, whilst in temporary charge of the collectorate, brought forward the fact of the injudicious interference with the ryots having made the cultivation of this cotton unpopular. Upon this representation all interference was withdrawn; the ryots were freely left to their own choice, and in the succeeding season of 1848-49 the cultivation as above mentioned fell from 20,502 to 3,351 acres.

12. Mr. Bell, who shortly afterwards succeeded to the collectorate, was called upon to report upon this sudden decrease, and did so in the following terms :—

" The chief cause of the decrease of cultivation this year is, there can be no doubt, the fact that the cultivators have, for the last two or three years, been in a great measure compelled to cultivate the New Orleans cotton. The mamlutdars, misapprehending the tenor of orders issued by the late Collector,

and by Mr. Mansfield when Acting Collector, have carried their interference with the cultivators in behalf of this cotton beyond mere persuasion, and the people have no hesitation in declaring that, having for several seasons cultivated the New Orleans cotton in obedience to the orders of the Government, and annually suffered loss by so doing, they gladly abandoned it when they were given to understand that the cultivation of this cotton was optional with themselves."

13. During the whole of the first period (from its commencement in 1841 up to 1847-48) the results were extremely various. In some instances very fair crops were produced, in others (which embraced the majority) the returns were more or less unfavourable, and the general opinion both amongst Europeans and natives was, that a degree of delicacy and capriciousness was inherent in the plant, which must preclude its ever coming into general use.

14. In 1848-49 a new period commences, which may be called that of free cultivation, the ryots having been left entirely to themselves. From that time forward, with one or two checks, the increase has been steady up to the past season, in which, in the Dharwar collectorate and the jagheers included within its boundaries, it amounted to 214,310 acres.

15. In addition to the area above shown as existing within the Dharwar collectorate, the cultivation of American cotton has, to my own knowledge, extended over the Dharwar frontier into the Raichore Doab and to the Bellary districts of the Madras presidency. I have no data to show the extent to which it has spread, but in the last-named district I have seen villages in which the New Orleans and native cottons were growing in nearly equal proportion.

16. In the Belgaum collectorate an attempt was made (detached from that of Dharwar) to introduce American cotton, commencing in 1845, under Mr. Channing, who had been Mr. Mercer's assistant in Dharwar, and in the season of 1848-49 the cultivation amounted to 4,189 acres. But from that period it rapidly declined, and in 1853-54 only 1,385 acres were sown, and Government then abandoned all further concern in these experiments. It had, however, been ascertained that the cultivation (as in Dharwar) had been the reverse of voluntary.

17. But there is no doubt that through the very faulty nature of the cleaning machinery manufactured in Belgaum and distributed by Mr. Channing, the cotton was greatly damaged and its value impaired, and consequently even such of the ryots as had obtained good crops were deterred from con-

tinuing the cultivation. The whole of this machinery was called in by Government and in 1858 destroyed at the Dharwar factory as perfectly worthless. Since then cultivation in the Belgaum collectorate has been confined to one district* closely adjoining Dharwar, and it has risen in the past year to 6,620 acres, cleaning machinery being supplied from the Dharwar factory.

18. One of the most remarkable facts regarding the character of the cotton during the last twelve years has been the entire absence of the delicacy and capriciousness above noticed; and this circumstance is, I believe, to be attributed to an improvement effected in the seed entirely by accident.

19. With newly imported seed we find generally that the results reported are similar to those at first experienced in Dharwar. Owing to imperfect germination the plants obtained were few, and those were more or less healthy.

20. In what I have called the first period, viz. from 1841 to 1848, the ryots were continuing to sow the produce of deteriorated seed. In the following year, when left to themselves, those only who had obtained good returns (which could alone be produced from strong and healthy plants) were the parties who continued to cultivate. All the other seed not sown was eaten up by cattle, and the country has since been supplied from the successive produce of the healthy seed above alluded to.

21. Acclimatizing has doubtless had something to do with the above result; but the change which occurred in the character of the plant in the season of 1848-49 was much too sudden to admit of more than a minor degree of importance to be attached to this cause.

22. Fears have been expressed that, through the process of hybridizing, American cotton would in a few generations degenerate into the native variety; but experience in these districts has shown that these fears are quite groundless. This and the native variety have been grown every season, not only in close proximity, but even together in the same field, and each has preserved its distinctive peculiarities without the slightest tinge of those of the other being observable in it.

23. From these experiences, when future attempts are made at the introduction of exotic varieties of cotton into other districts of this country, the expediency is apparent of exercising especial care over the selection of the first plants from which seed is taken, and of subsequently securing a succession of good seed by weeding out all unhealthy plants for the first year or two.

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* The Roan Mahal of the Baudaumy Talooka.

24. I now revert to the Dharwar collectorate. As previously mentioned, during the first year of free cultivation (1847-48) the extent sown fell suddenly to 3,351 acres. It then rapidly increased until 1854-55, when it arrived at the amount of 63,298. This, however, was succeeded by a decrease in the following year of upwards of 12,000 acres, the quantity sown (in 1855) being 50,802 acres

25. In May 1855 I was permanently placed in charge of the Cotton Gin Factory. I found much discontent existing amongst the cultivators and dealers, owing to the unsatisfactory description of machinery supplied to them from that establishment.

26. They complained that not only was the expense of cleaning their cotton thereby considerably increased, owing to the diminished out-turn of work as the gin got out of order, but that from the same cause and the difficulty of obtaining repairs, they were also subject to great delay and uncertainty in getting their produce ready for the market.

27. On investigating the subject I found that these complaints were not without foundation, and that the machinery then being supplied by the Factory was of the most faulty description.

28. The gins were so ill-constructed that (owing to the irregular action of the saws) they not only cut and injured the fibre of the cotton, but after a few weeks' employment certain portions of the machine worked themselves into contact with and destroyed other parts to an extent that rendered the cost of the repair nearly equal to that of a new gin.

29. This gave rise to a continued source of expense, which the people could not then afford, besides which the character and price of the cotton had become lowered in the Bombay market, where it was noted as an article to be avoided in consequence of the injury to which the fibre was subjected, and for these reasons its cultivation was again becoming unpopular in the districts, and had commenced falling off as above mentioned.

30. All these circumstances were duly reported to Government; and after careful investigation it was determined that the defective gins should be withdrawn from the districts, and others substituted on terms advantageous to the owners.

31. Meantime I had been occupied in designing and constructing new descriptions of machinery, and by the ensuing season (1856-57) cotton gins were made and introduced, which have from that time up to the present period proved to be both efficient and durable.

32. An immediate demand sprung up for these machines, which kept the Factory in active and profitable employment until two years ago, that, owing to the increasing scarcity and expense of suitable timber, it was deemed necessary to make arrangements for obtaining iron machinery from England. For this purpose I was sent home on special duty, taking with me models from which the present cast-iron machinery has been constructed.

33. From the period above mentioned, at which the introduction into the districts of new and improved cleaning-machinery commenced, the steady increase in the cultivation of American cotton up to the present time will be seen from the accompanying diagram. The number of gins supplied in each year is also given.

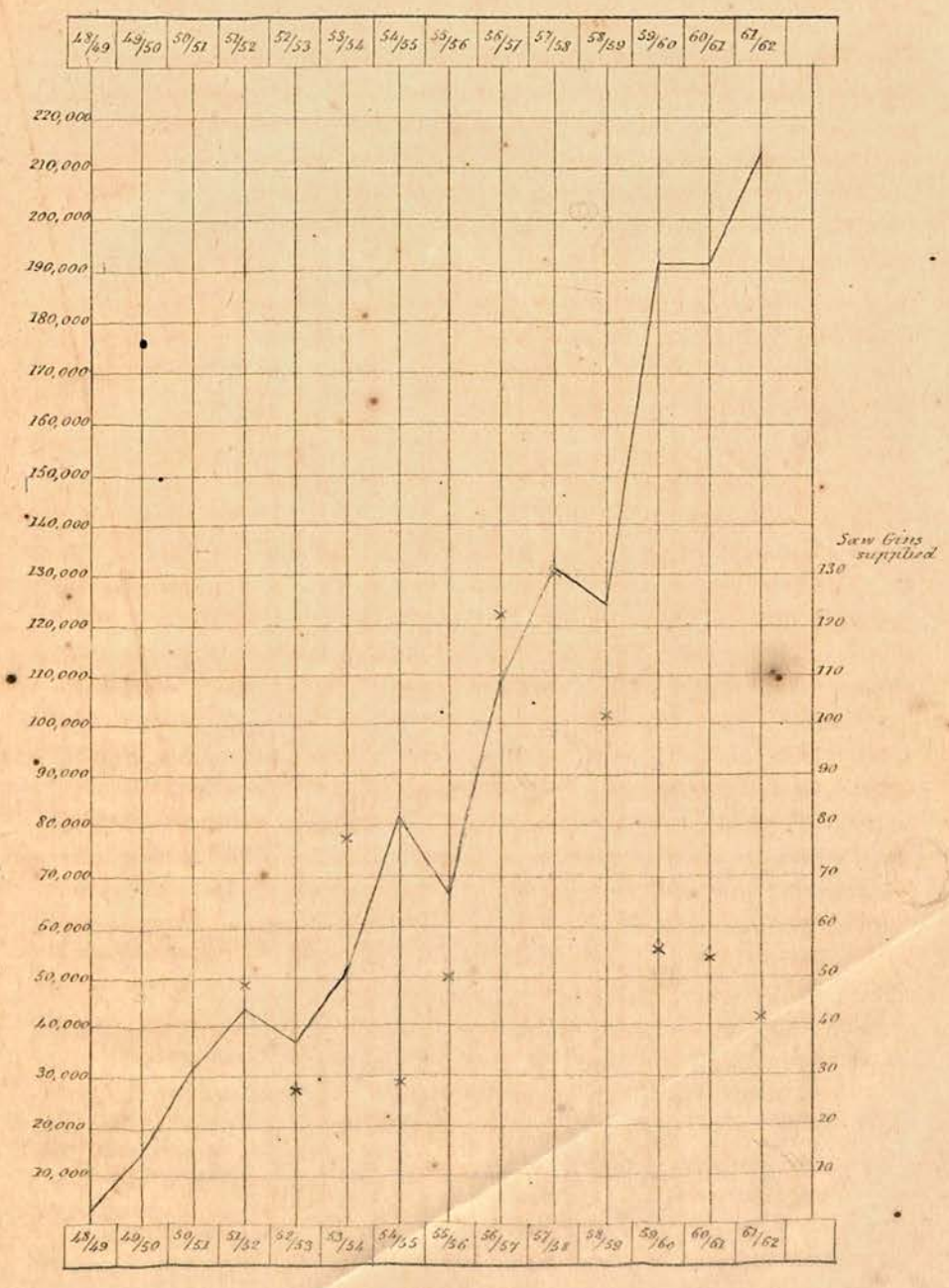
34. I mention this latter circumstance to point out what might be done by their respective Governments for the neighbouring provinces of Bellary and Raichore, where the chief, if not almost the only, obstacle to the extension of the cultivation of American cotton is the want of cleaning machinery, and where the ryots are just as anxious to obtain it as those of Dharwar; and it should be remembered, on the ryot's behalf, that in cotton cultivation, where the American plant will thrive (independent of its increased market value), the introduction of it adds one-fourth to his return of produce without any additional cost or labour.

35. The former Commissioner of Raichore, Major Meadows Taylor, became aware of the necessity of providing machinery; and on meeting with him in that district in 1859 he consulted me on the practicability of establishing a branch factory in connection with those of Dharwar, from which it could be supplied with trained work-people. The plan was arranged, but the subsequent restoration of those districts to the Nizam has prevented its being carried out.

36. During a visit I paid in November last to the Bellary districts bordering upon Dharwar, I was agreeably surprised to observe the extent to which American cotton had pushed its way into that country, and also with the appearance of the crops, which in many instances were quite equal to the best Dharwar fields.

37. But the cultivators complained that, owing to the want of gins, they were obliged to sell their cotton in the seed to such dealers as had gins in the vicinity, and to others who carried it away to their cleaning houses in the Dharwar districts. In these transactions the ryot is at the mercy of the sowcar, and suffers as a matter of course.

DIAGRAM showing the Number of Acres cultivated with New Orleans Cotton in the Dharwar Collectorate and enclosed Jagheers from 1848/49 till 1861/62, and also the Number of Saw Gins issued from the Dharwar Gin Factory in each year since 1850/51.



EXPLANATION.

The zig-zag line across the Diagram represents acres. The point at which it crosses the line under any year represents the number of Acres cultivated in that year as deducible from the Scale of Acres on the Left. The small cross represents the Number of Gins issued in each year as deduced from the Scale on the Right.

G. F. Forbes,
Superint Cotton Gin Factory

38. A branch factory similar to that at Kurujghy, in the Dharwar collectorate, would prove of the utmost advantage to the Bellary districts. But in the first instance funds from the Madras Government would be required to establish it, as the ryots are as yet by no means so wealthy as their Dharwar neighbours. In a short time, however, I have no doubt that the establishment, like those of Dharwar, would become self-supporting. The cost of the building (which would form the chief if not the only outlay) would not, with all its necessary appliances, exceed about Rs. 1,800 less or more.

39. Though I have not seen it myself, I have received reliable information that the cultivation of New Orleans cotton has also extended over the southern and south-eastern boundary of the Dharwar collectorate into the Mysore territory. From its position with reference to the west coast there must be a very large area indeed in that province just as suitable for the cultivation of American cotton as the lands of Dharwar itself, and if due encouragement is given in the way of an adequate supply of the proper description of cleaning machinery, it cannot be doubted that large supplies may be obtained from that quarter at no distant date.

40. One result of the present enormously enhanced value of cotton will be observed in the accompanying report, viz. the sudden and surprisingly increased demand for cleaning-machinery,—the number of applicants on the register who have deposited the usual advances amounting to 591, the value of which will be Rs. 1,38,000.

41. The cause of this is that the money is now reaching the pockets of the ryots, and that they can afford to purchase gins for themselves, instead of depending, as heretofore, upon the dealers, to whom a large portion of them were obliged to sell their cotton uncleaned, the bargain generally depending upon the proportion of wool to seed—a point which rested upon the dealer's word, and which the ryot well knew was rarely decided otherwise than to his disadvantage.

42. It is very desirable that this demand for machinery should be met to the fullest extent for several very important reasons. In the first place an adequate supply will ensure the cleaning of each season's crop in sufficient time for export before the monsoon sets in, and with the prospect of good communication and direct shipment from Sudashewghur, the produce of these districts may be expected to reach England within six or seven months from the time of its being picked from the field, instead of occupying eighteen months or two years in transit, as has hitherto been the case, much to its detriment in value, owing to deterioration of strength and colour of the fibre.

43. A second advantage of a full supply of machinery will be extension of the cultivation of American cotton, it may be hoped ultimately to the entire expulsion of the native variety for export from the Dharwar district,—an object, in my opinion, much to be desired, as the latter is not only a far less profitable crop to the ryot, but with the exception of one or two localities it is of very ordinary quality, and is chiefly made use of for admixture with and adulteration of the American variety.

44. A third advantage which would accrue from the ryot being in possession of ample means of cleaning his own crop would be that less of it would pass for that purpose into the hands of the sowcars and dealers, and the admixture and adulteration which is now so prevalent would to a certain extent be remedied.

45. The above-mentioned adulteration and admixture of inferior native cotton with the American variety during the process of cleaning is carried on openly and undisguisedly at all the cleaning establishments of the sowcars and dealers throughout these districts. Though aware of the practice I had no idea of the extent to which it was pushed until I paid these places a visit last season when they were at work.

46. A description of one of them (a large native cleaning establishment at Guddug) will serve as a general sample of the whole. On entering the court-yard, which was enclosed by a high wall on one side, was seen a large heap of very inferior and trashy looking native kupas, and near to it a pile of about the same bulk of very fair American seed cotton. The space in front of the gin-room was covered with a mixture of these two heaps, spread out to the sun to dry, and upon this mixture the gins were at work. Samples both of the seed and the cotton taken from the gins whilst at work (here and elsewhere) were forwarded by Mr. Haywood to the Cotton Supply Association with full details.

47. The injury which this nefarious practice inflicts upon the character of this produce in the home market, and consequently upon the interests of this part of the country, does not require comment.

48. The real value of pure Dharwar-grown American cotton in the English market is no longer a matter of doubt. It has been established beyond dispute that it is quite equal to the supplies from America of what is called "Middling Orleans," which is the description of cotton most in demand. In proof of this, if such were required, quotations could be furnished from the opinions pronounced by the home authorities (both spinners and brokers) upon

the supplies sent to them on various occasions for the express purpose of ascertaining this point.

49. The diagram at paragraph 33 shows that within the last five years the cultivation of American cotton in the Dharwar districts has increased more than six-fold. There is no reason to doubt that this increase will continue. The demand for machinery (if it is fully met) is a guarantee that it will do so, in which case a short time hence the whole available area of the Dharwar cotton land will be covered exclusively with this valuable plant, and the extent under yearly cultivation, including native jagheers, will not be less than 380,000 acres, leaving about 80,000 acres of the present area of cotton cultivation for the growth of native cotton for home consumption. Bellary, Belgaum, and Raichore are immediately contiguous (where the cultivation of American cotton has already extended), and may be safely estimated at 220,000 acres more (this being not more than one-third of the area in those districts at present under native cotton). The above total area of 600,000 acres will, at 4 acres to the bale, furnish 150,000 bales of New Orleans cotton. From Mysore, which is also contiguous to Dharwar, a considerable addition ought to be obtainable before long.

Last year 1861-62.	Acres.
American cotton.....	214,310
Native cotton.....	243,000
Total....	457,310

50. Though this quantity would be but a small mite in the enormous home consumption, still, as I have above shown, it is the identical article wanted in England. Unlike other descriptions of Indian cotton it requires no alteration or adaptation of the spinning mills for its use, and in no other region (out of America) that I am aware of have the attempts at its cultivation met with the success even already attained in Dharwar and its contiguous districts.

51. With the experiences now being realised at home, the question of providing the further measures required for the protection and encouragement of even this extent of cultivation is one well worth the consideration of those most deeply concerned. Government can do little more in the matter; the field is now ready for private enterprise. The intervention of European agency between the grower and the consumer, to take the place of the present native dealers, is what is required; and by the opening of next season, facilities will be afforded for the introduction of these agencies such as have not hitherto existed.

52. Good communications to the sea-board, with the means of direct shipment thence, will remove the necessity that existed for all the changing of hands that has hitherto been found necessary between this and Bombay.

53. It must, however, be admitted that so long as the sowcars and native dealers are unrestricted in the nefarious practice of adulteration which I have above exposed, the European must enter the field at a great disadvantage, in so far as that they would be able to outbid and undersell him to the extent of the difference of price between the rubbish they use for admixture and good New Orleans cotton.

54. Those parties would also doubtless make a strenuous effort to preserve their present monopoly, and whilst the competition lasted, they would be in a condition, without incurring loss to themselves (merely by foregoing their profits), to raise the price of the American cotton to a rate with which the European could not compete.

55. The prevention or suppression of this fraud becomes therefore one of the most essential measures for the welfare of the cotton interests of these parts. Clause 2 of a Bill read before the Legislative Council of India on the 16th January 1858, for the better suppression of frauds in the cotton trade of the Bombay presidency, makes the fraudulent mixing of good and bad cotton in the same bale a penal offence. This appears to me to apply exactly to the case under notice, which can bear no other interpretation than a wilful admixture of an inferior with a superior article with fraudulent intent.

56. In bringing this matter so prominently to the notice of Government, I beg to point out that it is a purely local evil, which does not exist elsewhere, as there is no cultivation of exotic cotton in any other part of India to lead to it; it therefore becomes a question for the consideration of the local legislature.

57. The parties by whom this fraud is perpetrated are quite aware of the illegality of their proceedings, and have nothing to say in defence, except that they do not think it can be of much importance as no notice is taken of it.

58. The cultivator is in no way concerned, and any measures taken for its suppression would be a matter of indifference to him. If therefore the local Government is pleased to view the evil in the light in which I have represented it, and to bring forward a legislative enactment declaring such admixture of these two varieties of cotton to be illegal in terms of Clause 2 of the said Bill of the Legislative Council, I believe that a proclamation to that effect, distributed amonst the dealers, would of itself suffice in a great measure to put a stop to the practice.

59. At all events it would rarely, if ever, be necessary to resort to any of the severe penalties of fine, imprisonment, &c. provided for by the above-mentioned Bill. A temporary suspension of the cleaning operations of the establishment would be a more suitable punishment, and would, I believe, prove quite sufficient.

60. The difference between the seeds of the American and native cotton is so marked that there is no difficulty whatever in discovering their admixture in the saw-gins; the detection of this offence would therefore, with very little trouble, become almost unavoidable.

61. Before concluding it may not be out of place to notice the prospects of the native cotton of this country in connection with the new cleaning-machinery, upon the roller or churka principle, which has just been constructed for its use, and which, I trust, will serve to obtain higher favour for this produce than it has hitherto met with in the home market.

62. During the last 25 years the Government of India has fully appreciated the necessity of obtaining some more expeditious method of cleaning indigenous cotton than by the slow and expensive process of the native churka, and at various successive periods every temptation and inducement that could be offered was held out in order to attain the desired end.

63. The Supreme Government at Calcutta challenged invention by offering prizes in money of large amount sufficient to induce the best mechanical skill of the country to enter the lists, and at the appointed trials many and varied inventions and modifications were brought forward, but the result proved that the task had baffled the skill of the competitors, and that the "time-honoured" churka continued to hold its sway in triumph.

64. One or two points essential to success had been overlooked in all these machines, and though some of them in short trials appeared to give promise of success and obtained prizes, still, when brought into practical use, it was found that they could not surpass the "churka" even in the single requirement of quantity of out-turn of work, and ultimately all hopes of obtaining such a machine seemed to have been abandoned.

65. For some years back I have paid very considerable attention to this subject, and after careful practical study succeeded in producing a machine entirely free from the above defects, and on proceeding to England I took with me working models of these machines and also supplies of seed cotton. I was thus enabled personally to lay these models before some of the first machinists of

the country, and to explain where the former difficulties lay, and the exact nature of the article now required.

66. Various parties have been engaged, each introducing his own modification with regard to the application of power, &c., but the practical result is the production of machinery which, with the estimated labour of one man, gives an out-turn of upwards of 100 pounds of cotton-wool per day, with the additional advantage of allowing no seed to pass through.

67. At the very *highest* estimate the quantity of cotton cleaned by the best worked native churka does not exceed 20 pounds per man per day of 12 hours. With such a great advantage in economy, not to mention expedition also, as well as the yearly increasing scarcity and cost of labour, owing to the amount taken up by railways and other public works, the benefit of such machinery, when it becomes generally known, will be appreciated, and the cleaning of native cotton by its use will in all probability become a separate occupation in itself.

68. That it will prove sufficiently profitable to engage the attention of enterprising parties may be inferred from a statement made by Mr. Landon of Broach, who ought to be well informed, as he had practical experience to guide him. In a letter to the Secretary to Government, dated Broach, 12th January 1858, Mr. Landon writes:—"As an instance of the superior economy of the saw-gin as compared with the Gujarat churka (which is the most effective native machine in India), I may mention that if the whole of the native cotton shipped from Broach were to be cleaned by the former instead of the latter, a saving would be effected under this head alone of more than Rs. 3,00,000 (three lakhs) per annum."

69. The saw-gin destroyed native cotton, and its value was lowered in the market; nevertheless labour was scarce, and the Broach saw-gins driven by steam found ample employment. I was at that place in the cleaning season of 1859, and I saw the carts laden with seed-cotton crowding to the gins, and their owners striving for precedence. The exports from Broach at the time at which the above estimate of profits was taken amounted, I believe, to about 45,000 bales per annum.

70. That portion of the province of Berar which is now being penetrated by the railway yields three times the above amount of cotton, and manual labour is still more scanty. The produce, as it is picked from the field, is piled up in one large heap in the open air, where it remains sometimes for months until labour can be obtained.

71. When first stored in this way, from a short distance it resembles a heap of snow in whiteness; dust-storms, however, set in, and the heap becomes gradually covered with fine sand and earth, until at length one can no longer distinguish what the contents may be. A few showers of rain generally succeed those dust-storms, and the amalgamation of mud and cotton is completed.

72. I may here observe that although the cultivation of native cotton is capable of extension to an enormous degree, yet the amount of manual labour available is barely sufficient to clean the quantity now produced. Any large extension without the aid of cleaning-machinery therefore cannot be expected, and this remark is the more applicable when it is considered that the chief increase in cotton cultivation must be looked for in new districts, such as those of Central India, where population is thin and scarcely sufficient to till the land. In a well-populated district like Dharwar, after cultivation and picking have been disposed of, the available manual labour is wholly insufficient to clean the produce by the ordinary method, and though cotton has always been a paying crop, it was not until cleaning-machinery was introduced that cultivation largely increased.

73. Under the disadvantages that I have named, and others that might be added, with which Indian cotton has to contend, it may be truly stated that, with respect to quality alone, the consumers at home are as yet ignorant of the extent to which India is capable of meeting their wants. Its produce has not been appreciated because it has rarely reached them in fair condition or unadulterated.

74. Before the present scarcity, when American cotton was procurable, Indian cotton was scarcely looked at save for re-exportation, and this latter crisis will only tend to complete the ruin of its name and character, for it is notorious that the high prices ruling have led to admixture and adulteration which have quite eclipsed all former experience.

75. Anything resembling cotton which could be packed into a bale readily passed muster. I have been told upon reliable authority that the "sweepings" of the gin-house (formerly cast away) have been sold in Bombay at Rs. 130 per candy.* It is probable therefore that at no former period has the cotton produce of India been sent to England in a condition so unfavourable to its real character.

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* This was a month or two back when prices of good cotton did not exceed Rs. 300 per candy.

76. A very different tale might be told if the crop, from the field to the final pressing, received the same care that is bestowed upon it in America; but this need never be hoped for so long as the whole trade of the interior is left to native dealers.

77. When recently at home I was told by spinners who had been in the habit of using native Indian cotton that there was cotton in India which would suit their purpose perfectly, but that they could not depend upon uniformity of quality even in the contents of a single bale. This fact is the secret of the bad repute of Indian cotton, and it points at once to the only remedy (one which has been often enough urged by all men who have had practical experience to guide them), viz. the establishment in the interior by private enterprise of European agency, capable of competing with the native dealers, in whose hands this entire trade is at present suffered to remain.

78. There are two objects to be attained which have hitherto been totally neglected—*First*, securing to the ryot the certainty that any improvement he can effect in the quality of his produce by the exercise of a little more care and trouble in cultivation and picking will bring him its reward; *secondly*, to provide the means of protecting the produce from adulteration until it has been finally pressed for export.

79. That these should be the work of private enterprize no one will dispute, and until it be attended to all the aid that is so loudly called for from Government may be granted tenfold. The country may be interlaced with roads, railways, and canals, but the prospects of its cotton trade, in so far as the requirements for home consumption are concerned, will be in no way improved.

80. I have reason to know that the correctness of these remarks is no longer doubted by parties at home who have given the subject fair and unprejudiced consideration, and who are not unwilling to provide the means for establishing the agencies required; but they are deterred from commencing operations under an impression that India is not yet prepared for such enterprize.

81. It is right, however, to state that such is not now the case; the impediments which formerly existed are rapidly being cleared away, and even within the last twelve months facilities have been opened out which afford ample room for immediate action.

82. The province of Broach (one of the finest cotton districts in this presidency) has rail and water communication with the shipping in Bombay harbour. Sholapoor is opened out, and has its railway carrying cotton to the

same port. So likewise with Berar, where in a short time the only interruption will be about 11 miles on the Thull Ghaut, which, with the railway arrangements, will give very little trouble; and the Southern Maratha Country and Dharwar districts have new facilities such as they never enjoyed before; these alone are more than sufficient to encourage an immediate commencement.

83. At paragraph 40 I have stated that the number of gins now applied for amounts to 591, over two hundred of which have been ordered within the last month. I should now mention the means available as well as the measures which have been adopted to meet this demand. On the 11th ultimo I applied for the sanction of Government to enable me to procure from England a supply of iron-castings for 300 gins, and I received a reply granting the required sanction, from which I have been able to send the necessary orders home by the mail which left Bombay on the 27th instant. I have also forwarded, on the 29th instant, a second application for permission to obtain a further supply of 300. These, when received, will suffice for the parties who have already applied.

84. To meet the further demand which may be anticipated, there is a supply of material now arrived in Bombay (independent of that which has been lost by the wreck of the "James Pilkington") which, when received, with the aid of other resources, will enable the Factory to have upwards of 100 gins ready for distribution in time for next year's crop.

85. I may here mention that though the Home Government advances the money required for the necessary materials, the State is in no way a loser by these transactions. The articles obtained from England embrace only such portions of the machine as are best made in cast-iron; the remainder, along with the furnishing and fitting up, is completed at the F^{a}ctory, where the charges for work done are so framed as to cover every possible expenditure, including superintendence.

86. On referring to the returns I find that during the six years ending 6th June last, the receipts realized have fallen short of the expenditure by a sum of 1,280 Rupees, making 213 Rupees per annum, or 17$\frac{3}{4}$ Rupees per month, the sum which for that period has been the sole cost to Government of the Dharwar cotton establishments, and even this deficiency is due to partial suspension of gin making, pending the receipt of iron materials from home. The sale of the extensive supplies now in the country or ordered will more than cover this deficiency.

87. Before closing this report, which mainly relates to the extension of New Orleans cotton, it may be as well to give an approximate estimate of the

quantity of native cotton which may be reasonably looked for from the cotton fields of the Southern Maratha Country and adjacent districts, for which Sudashewghur forms the natural outlet. In this I include all the cotton land situated within about 200 miles of that port.

88. We have pretty accurate data of the area under cotton in our own territories and Bellary, and can at any rate form an estimate of the area within the above distance in the adjacent territory of Raichore and Mysore. After making a deduction from the present extent under cotton for the supply of the quantity of American cotton mentioned at paragraph 49, there will remain in Dharwar, Belgaum, Bellary, and the southern districts of Sholapore on the Krishna 630,000 acres for native cotton. I am certainly rather under than over the mark in putting the present cotton cultivation of Raichore and Mysore at 350,000 acres more, making a total of 980,000 acres, which, at the moderate estimate of 7 acres to the bale, will give 140,000 bales of native cotton, which, with the amount of New Orleans cotton estimated at paragraph 49, gives a total of close upon 300,000 bales as the cotton available for export from Sudashewghur. The facilities afforded for export, and an increased supply of cleaning-machinery, will doubtless add very considerably to this amount.

Dharwar and Jagheers		80,000
Belgaum and Jagheers		250,000
Bellary		200,000
Sholapore and southern district		100,000
		630,000
Raichore.....	175,000	
Mysore	175,000	
		350,000
Grand Total..		980,000

I have the honour to be,

Sir,

Your most obedient Servant,

G. F. FORBES,

Superintendent, Cotton Gin Factory.

Dharwar, Cotton Gin Factory, 30th August 1862.

Acres cultivated with New Orleans Cotton in the Dharwar Collectorate and included Jagheers, and Number of Saw-Gins supplied from the Factory since 1848-49.

Years.	Dharwar Collectorate.	Jagheers.	Total.	Number of Saw-Gins supplied from the Factory.
	Acres.	Acres.	Acres.	
1848–49	3,238	....	3,238	No data, but 76 gins were in the districts in all in the latter year.
1849–50	15,573	....	15,573	
1850–51	31,669	....	31,669	74
1851–52	42,648	707	43,355	48
1852–53	28,011	8,790	36,801	27
1853–54	41,403	9,859	51,262	77
1854–55	63,299	18,280	81,579	29
1855–56	50,803	15,711	66,514	50
1856–57	82,352	25,855	108,207	123
1857–58	97,307	33,573	130,880	130
1858–59	101,750	23,001	124,752	101
1859–60	152,000	39,281	191,281	56
1860–61	148,741	42,285	191,026	55
1861–62	171,946	42,364	214,310	42

NOTE.—The acres of part of the Jagheers for 1861-62 were not procurable, therefore the area of the preceding year is adopted.

G. F. FORBES,
Superintendent, Cotton Gin Factory.

HALF-YEARLY REPORT OF THE COTTON GIN FACTORY, DHARWAR.

HALF-YEARLY REPORT OF THE COTTON GIN FACTORY, DHARWAR, FOR THE TERM ENDING THE 31ST MAY LAST.

The following is a summary of the amount and value of work done by the Factory during the above period :—

	Rs.	A.	P.	Rs.	A.	P.
Value of 2 driving-wheels for 18 saw-gins, including driving-straps	110	0	0			
Do. of 46 do. for do. without driving-straps ..	2,346	0	0			
Do. of 23 driving-straps for 10 saw-gins.....	74	12	0			
Do. of 9 pairs of hopper boards	22	8	0			
Do. of 5 flues	35	0	0			
Do. of repairs effected on old gins	623	4	6			
Do. of bearings, boxes, and other parts of gins supplied to the branch factories	297	4	5			
Do. of work done on cast-iron gins of 18 and 10 saws, which consisted in completing them and in repairing breakages they suffered in the transit, the amount thus expended being put on to the price of the gins	662	1	9			
Cost of experiments in cotton-cleaning machines	97	13	4			
Value of repairs and improvements in a model pile engine formerly constructed at the Factory	19	0	7			
Do. of repairs effected on carts carting timber and charcoal for the Factory	29	13	1			
Do. of repairs effected in tools belonging to the Factory	2	13	6			
Do. of work done in adjusting a circular-saw for sawing wood	9	10	10			
Do. of tools and implements made for the use of the Factory	21	4	0			
				4,351	6	0
Deduct—						
Value of materials consumed	1,973	11	4			
Cost of labour	2,062	10	2			
				4,036	5	6
Balance in favour of the Factory....Rupees				315	0	6

2. During the half-year under notice 47 gins were sold, viz. 3 of 18 saws and 44 of 10 saws.

3. The number of orders for gins on the register up to this date amounts to 506.

4. The branch factories were actively at work during the whole of the above period. As in many instances, in order to complete contracts, gins were worked day and night.

5. The following statement exhibits the amount of work done at each of the branch factories during the period in question:—

Work done at the Kurujghy Branch Factory.

	Number.
Gins of 20 saws, repaired	5
Do. of 18 do. do. ..	16
Do. of 14 do. do. ..	1
Do. of 10 do. do. ..	33
Do. of 8 do. do. ..	7
	62

Work done at the Gudug Branch Factory.

	Number.
Gins of 24 saws, repaired	1
Do. of 21 do. do. ..	1
Do. of 20 do. do. ..	2
Do. of 18 do. do. ..	12
Do. of 10 do. do. ..	3
	19

6. The above statement refers only to extensive repairs which required the gins to be conveyed to the branch factories, but does not include work of a lighter description, attended to by the itinerant parties in their periodical rounds.

7. The state of the funds of the branch factories, especially of that at Kurujghy, has been satisfactory. The account of receipts and disburse-

ments of each of the branch factories, with reference to the half-year under report, may be exhibited as follows :—

Kurujghy Branch Factory.

	Rs.	A.	P.
Balance at the commencement of the half-year, viz. 1st December 1861	2,413	2	2
Receipts during the half-year	2,672	2	0
	5,085	4	2
Deduct—			
Amount of disbursements during the half-year	1,605	8	11
Balance at the end of the half-year	3,479	11	3

Gudug Branch Factory.

	Rs.	A.	P.
Balance at the commencement of the half-year, viz. 1st December 1861	748	1	5
Receipts during the half-year	255	0	0
	1,003	1	5
Deduct—			
Amount of disbursements during the half-year	358	12	9
Balance at the end of the half-year....Rupees	644	4	8

C. COURPALAIS,
Mechanical Supt. in charge Cotton Gin Factory.

Dharwar, Cotton Gin Factory, 18th August 1862.

STATEMENT

Cotton Planters' Report from 1st December 1861

Talooks.	Prospect of the Season and state of the Crop as regards each sort of Cotton, showing also what stations were visited by the Superintendent.	Extent in Acres.					
		New Orleans.		Broach.		Total, Foreign.	
		Extent in Acres.	Estimated Produce in Candy of 784 lbs.	Extent in Acres.	Estimated Produce in Candy of 784 lbs.	Extent in Acres.	Estimated Produce in Candy of 784 lbs.
1	2	3	4	5	6	7	8

No. 1.

to 31*st May* 1862 *in the Dharwar Collectorate.*

Country Cotton.		Gins.				
		For sale in the Factory.	In use.		Out of use.	
		Belonging to Government.	Belonging to Private Individuals.		Belonging to Private Individuals.	
Extent in Acres.	Estimated produce in Candy of 784 lbs.	Number and size of Gins.	Number and size of Gins.	Talooks.	Number and size of Gins.	Talooks.
9	10	11	12	13	14	15
		3 gins of 20 saws each. 2 do. of 10 do. do. of cast-iron. 2 do. of 10 do. do. wooden. 2 do. of 4 do. do. 1 cotton thrasher. 1 Egyptian churka. 2 roller gins. 2 Macarthy gins. 15	6 gins of 40 saws each 2 do. of 25 do. do. 1 do. of 24 do. do. 13 do. of 20 do. do. 1 do. of 19 do. do. 282 do. of 18 do. do. 48 do. of 18 do. do. of cast-iron. 1 do. of 15 do. do. 8 do. of 14 do. do. 3 do. of 13 do. do. 230 do. of 10 do. do. 47 do. of 10 do. do. of cast-iron. 87 do. of 8 do. do. 144 do. of 7 do. do. 873	Unable to state, as the gins are constantly removed about from one talooka to another, and often into the adjacent Madras districts and Enam villages, according to the requirements of the owners.	None I am aware of.	None I am aware of.

STATEMENT

Gins.						
Completed in the present Half-year.		Being made			Sold for Government during the Half-year under report.	
Belonging to Government.		For Government.	For Private Individuals.		Number and size of Gins.	At what Cost.
Number and size of Gins.	Value.	Number and size of Machines.	No.	Size of Gins.		
16	17	18	19	20	21	22
None.	None.	1 cotton-cleaning machine. 26 roller churkas. 1 gin frame for 10 saw-gins. 3 driving-wheels & wheel-frames for 10 saw-gins 31	None.	None.	3 gins of 18 saws each, of cast-iron 44 gins of 10 saws each, of cast-iron.	Rupees. 750 6,600 7,350

Dharwar, Cotton Gin Factory, 18th August 1862.

No. 1 *(continued)*—

Profit or Loss to Government, deducting the cost of European superintendence.	Total net expenses on account of experiment from the commencement to the close of the Half-year preceding that under report.	Total expenses for the Half-year under report.	Remarks
23	24	25	26
Net profit during the six months under report is Rupees 315-0-6, as shown in the accompanying abstract statement of cost and returns.	Total expenses ..... Rs. 6,67,102 0 7 Total receipts ..... 2,37,509 0 10 Balance....Rs. 4,29,592 15 9	Total expenses ..... Rs. 5,016 5 4 Total receipts ..... 4,343 4 6 Balance....Rs. 673 0 10	

C. COURPALAIS,
Mechanical Supt. in charge Cotton Gin Factory.

STATEMENT

Account of Receipts and Expenditure of the Cotton Experiments,

						Rs.	a.	p.
Amount of Receipts from the commencement up to the Half-year preceding that under report						2,37,509	0	10
For the Half-year under report, from 1*st December* 1861 *to* 31*st May* 1862.								
Proceeds of the repair of saw-gins :—								
December 1861....	Rs.	212	8	7				
January 1862....	„	126	2	4				
February „	„	238	1	8				
March „	„	140	7	8				
April „	„	150	5	1				
May „	„	302	10	0				
					1,170	3	4	
Advances for gins to be disposed off:—								
December 1861....	Rs.	470	0	0				
January 1862....	„	270	0	0				
February „	„	80	0	0				
March „	„	300	0	0				
April „	„	760	0	0				
May „	„	970	0	0				
					2,850	0	0	
Value of 4 model carts, at Rs. 55 per each	Rs.	220	0	0				
Proceeds of the sale of sundry articles, &c.....	„	103	1	2				
					323	1	2	
						4,343	4	6
						2,41,852	5	4
Balance against the experiment						4,30,266	0	7
					Rupees....	6,72,118	5	11

Dharwar, Cotton Gin Factory, 18*th August* 1862.

No. 2.

Dharwar Collectorate, from the commencement up to 31*st May* 1862.

						Rs.	a.	p.
Amount of Expenses from the commencement up to the Half-year preceding that under report						6,67,102	0	7
For the Half-year under report, from 1*st December* 1861 *to* 31*st May* 1862.								
Allowance to the Mechanical Superintendent in charge Cotton Gin Factory from 1st Nov. 1861 to 30th April 1862, at Rs. 200 per month ..		1,200	0	0				
Salary of the Establishment of the Cotton Gin Factory from 1st November 1861 to 30th April 1862		786	11	9				
Batta to the Establishment of the Cotton Gin Factory for the months from October 1861 to March 1862		19	8	0				
					2,006	3	9	
Contingent expenses for constructing saw-gins, as per bills audited for the following months, viz :—								
October	1861.....	Rs. 469	7	9				
November	,, ...	392	8	8				
December	,, ...	615	0	8				
January	1862.....	478	9	10				
February	,, ...	608	13	5				
March	,, ...	445	9	3				
					3,010	1	7	
						5,061	5	4
					Rupees....	6,72,118	5	11

C. COURPALAIS,

Mechanical Supt., in charge Cotton Gin Factory.

STATEMENT No. 3.

Detailed Memorandum of sums collected during each of the Six Months embraced in the Cotton Planters' Report for the Half-year commencing 1st *December* 1861 *and ending* 31st *May* 1862, *for Gins sold and Value of repairs to Gins during that period, also for repairs to Gins, and Gins sold during the present Half-year.*

Months.	Sums collected during the present Half-year for Gins sold prior to 1st December 1861.	Sums collected for Gins sold during the Half-year under report.	Sums collected during the present Half-year for repairs made prior to 1st December 1861.			Sums collected for Gins repaired during the Half-year under report.			Total.		
			Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.
December 1861.	....	....	208	8	7	4	0	0	212	8	7
January 1862.	....	....	125	2	4	1	0	0	126	2	4
February „	....	....	189	1	8	49	0	0	238	1	8
March „	....	....	11	12	11	128	10	9	140	7	8
April „	....	....	50	11	2	99	9	11	150	5	1
May „	....	....	....			302	10	0	302	10	0
Total..Rs.	....	....	585	4	8	584	14	8	1,170	3	4

Remarks.	Rs.	a.	p.
Amount collected in the six months under report for repair of saw-gins ..	1,170	3	4
Advances received for gins to be disposed of.....	2,850	0	0
Value of 4 model carts ..	220	0	0
Sale proceeds of sundry articles, &c.	103	1	2
Rupees..	4,343	4	6

Dharwar, Cotton Gin Factory,
18*th August* 1862.

C. COURPALAIS,
Mechanical Supt. in charge Cotton Gin Factory.

STATEMENT No. 4.

STATEMENT

Cr. *Abstract Statement showing the Cost and Return of the Cotton Gin*

				Rs.	a.	p.	Rs.	a.	p.
By value of 2 driving-wheels for 18 saw-gins with strap, at Rs. 55 per each				110	0	0			
„ value of 46 driving-wheels for 18 saw-gins without strap, at Rs. 51 per each				2,346	0	0			
„ value of 23 hide straps for driving-wheels of 10 saw-gins, at Rs. 3-4-0 per each				74	12	0			
							2,530	12	0
„ value of articles prepared for cast-iron gins ordered from England, viz :—									
9 hopper boards, at Rs. 2-8-0 per each				22	8	0			
5 flues, at Rs. 7 per each				35	0	0			
							57	8	0
„ value of repairs to saw-gins, &c.							623	4	6
„ value of articles, bearings, bolts, &c. prepared for the branch factories							297	4	5
„ value of work done in cast-iron gins of 18 and 10 saws received from England, in adding wooden frames, adjusting them, and in repairing breakages they suffered in the transit				662	1	9			
„ cost of experiments on cotton-cleaning machines				97	13	4			
„ cost of repairs and improvements effected on a model pile-engine				19	0	7			
„ cost of repairing carts, carting timber and charcoal				29	13	1			
„ cost of repairing tools in the Factory				2	13	6			
„ cost of adjusting a circular-saw for sawing wood				9	10	10			
„ cost of tools and implements made for the use of the Factory, viz :—									
9 chisels, carpenter's	Rs.	3	8	0					
16 ditto smith's, cold		4	4	0					
12 bits for braces, carpenter		2	4	0					
1 screw-driver		0	8	0					
2 hammers, hand		1	8	0					
1 wrench		1	0	0					
1 screw-plate		1	8	0					
1 die for screw-plate		0	12	0					
1 mould for casting round bearings		3	8	0					
2 iron cups for melting zinc		2	8	0					
					21	4	0		
							842	9	1
				Rupees			4,351	6	0

Dharwar, Cotton Gin Factory, 18*th August* 1862.

No. 4.

Factory, Dharwar, from 1*st December* 1861 *to* 31*st May* 1862. DR.

To cost of Establishment :—										
Salary of the Fixed Establishment, exclusive of the allowance to the Mechanical Superintendent in charge of Cotton Gin Factory								770	2	11
Batta to ditto ditto exclusive of the Batta to ditto								15	5	0
Wages to the Contingent Establishment								1,277	2	3
										2,062 10 2
To cost of materials :—										
Mds.	lbs.	oz.			Rs.	a.	p.	per Md. of 28 lbs.		
52	14	12	of round iron	of sizes at	2	8	0	and above.	131	7 4
79	17	4	of square	do. of do. at	2	8	0	do.	199	13 5
82	23	0	of flat	do. of do. at	4	0	0	do.	316	8 2
11	26	10	of sheet	do. of do. at	3	10	0	do.	43	4 11
2	11	1½	of steel from old files	at	3	8	0	do.	8	6 0
4	16	2½	of old brass	at	14	0	0	do.	64	1 3
24	11	10	of zinc	at	3	6	0	do.	79	2 4
10	16	7	iron from broken swords		0	11	0	do.	6	10 8
21	gross 5 doz. 7 screws of sizes at various rates								30	11 0
8	he-buffallo skins at Rs. 2 8 0 per each								20	0 0
8	she-buffallo do. at „ 2 0 0 per each								16	0 0
2	bullock do. at „ 1 12 0 per each								3	8 0
114	circular-saws of 10 inch, at different rates								204	0 0
255¼	puras of charcoal, at 8 puras per rupee								31	14 6
2	lbs. 6 oz. of bristles, at Rs. 3-12-0 per lb.								8	14 6
1	lb. 15½ oz. of brass-wire at Rs. 1 per lb.								1	15 6
				Cubic feet.	Inch.			And under per foot.		
58	honny logs, measuring			914	7¼	at Rs.	0	5 0	285	14 5
19	medley do.	do.		337	4⅓	at „	0	8 0	168	8 5
7	teak do.	do.		112	5½½	at „	0	14 0	108	0 1
48	babool blocks for wheel naves								20	10 0
Wear and tear on files 85, weighing 80 lbs. 9½ oz., at 12 annas and under per lb.									60	6 9
3	unserviceable saws used for small springs for bearings								0	6 0
									1,810	3 3
Deduct value of waste wood, &c. sold									44	0 0
									1,766	3 3
To cost of sundry expenses :—										
December 1861									33	12 8
January 1862									39	13 7
February „									46	15 0
March „									22	10 5
April „									31	14 3
May „									32	6 2
									207	8 1
									4,036	5 6
To profit in the half-year									315	0 6
								Rupees.	4,351	6 0

C. COURPALAIS,
Mechanical Supt. in charge Cotton Gin Factory.

STATEMENT

Detailed Memorandum of the Number, Size, and Value of Gins made and sold during

	Gins of 20 Saws.		Cast-iron Gins of 18 Saws.			Cast-iron Gins of 10 Saws.		
	Number.	Value.	Number.	Value.	Value recovered.	Number.	Value.	Value recovered.
		Rs.		Rs.	Rs.		Rs.	Rs.
Number which were on hand at the close of the last half-year.....	3	..	3	..	..	46	..	..
Number completed during the present half-year	..	..	..	..	..	..	..	..
Total....	3	..	3	..	..	46	..	..
DEDUCT.								
Number sold during the half-year under report	..	..	3	750	..	44	6,600	..
Balance of cotton machines on hand except those being made	3	..	..	..	..	2	..	..

Dharwar, Cotton Gin Factory,
18*th August* 1862.

No. 5.

the Half-year ending 31*st May* 1862, *and the balance of Cotton Machines in Store.*

Machines.												Remarks.
Gins of 10 Saws, wooden.		Gins of 4 Saws.		Cotton Thrasher.		Egyptian Churka.		Roller Gins.		Macarthy Gins.		
Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	
	Rs.		Rs.		Rs.		Rs.		Rs.		Rs.	
2	..	2	..	1	..	1	..	2	..	2	..	
..	..	..	..	..	..	..	..	..	..	..	..	
2	..	2	..	1	..	1	..	2	..	2	..	
..	..	..	..	..	..	..	..	..	..	..	..	
2	..	2	..	1	..	1	..	2	..	2	..	

C. COURPALAIS,
Mechanical Supt. in charge Cotton Gin Factory.

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STATEMENT No. 6.

Statement of Gins sold during the Half-year ending 31st May 1862.

Months.	Description of Gins.				Total.		Remarks.
	Cast-iron Gins of 18 Saws each.		Cast-iron Gins of 10 Saws each.				
	No.	Amount.	No.	Amount.	No.	Amount.	
		Rs. a. p.		Rs. a. p.		Rs. a. p.	
December 1861	..	....	5	750 0 0	5	750 0 0	
January 1862	..	....	7	1,050 0 0	7	1,050 0 0	
February „	1	250 0 0	6	900 0 0	7	1,150 0 0	
March „	..	....	6	900 0 0	6	900 0 0	
April „	1	250 0 0	10	1,500 0 0	11	1,750 0 0	
May „	1	250 0 0	10	1,500 0 0	11	1,750 0 0	
Total....	3	750 0 0	44	6,600 0 0	47	7,350 0 0	

C. COURPALAIS,
Mechanical Supt. in charge Cotton Gin Factory.

Dharwar, Cotton Gin Factory,
18*th August* 1862.

STATEMENT No. 7.

Statement showing the Number of Carts made and sold under the authority of the Government Resolution No. 4597, *dated 8th August* 1853, *received with the Revenue Commissioner Southern Division's Memorandum No.* 2125, *dated* 11*th August* 1853, *during the Half-year ending the* 31*st May* 1862.

Number of Carts authorized to be constructed by Government Resolution No. 4597, dated 8th August 1853.	Number of them constructed up to the Half-year ending 30th Nov. 1861.		Number sold up to the Half-year ending 30th Nov. 1861.		Number of Carts constructed during the Half-year under report.		Number of Carts sold during the Half-year under report.		Balance remaining on hand at close of the Half-year under report.		Number of Carts being made at the close of the Half-year under report.		Remarks.
	No.	At what Cost.	No.	At what Price.	No.	At what Cost.	No.	At what Price.	No.	Value.	No.	Cost.	
		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.	
50	29	1,257 4 6	27	1,022 6 0	..	....	2	110 0 0	..	....	..	....	

C. COURPALAIS,
Mechanical Supt. in charge Cotton Gin Factory.

Dharwar, Cotton Gin Factory,
18*th August* 1862.

STATEMENT No. 8.

Memorandum showing the Names of the Purchasers of Carts sold, and the District to which they pertain, called for in the Revenue Commissioner Southern Division's letter, No 2819, *of 7th September* 1856, *paragraph* 2.

Number of Carts sold.	Names of the Purchasers of Carts, and the District to which they pertain.
1	Luxumun Kullapa, of Dharwar.
1	Chenabussapa Puckeerapa, of Dharwar.
2	

Dharwar, Cotton Gin Factory,
18*th August* 1862.

C. COURPALAIS,
Mechanical Supt. in charge Cotton Gin Factory.

No. 103.

REVENUE DEPARTMENT.

Bombay Castle, 13th January 1863.

RESOLUTION.—The attention of the Government of Madras and of the Commissioner in Mysore should, as suggested by the Revenue Commissioner, be drawn to the 34th and few following paragraphs of Dr. Forbes' report, and they should, at the same time, be informed that this Government will be glad to aid them in any manner in their power in extending to their Provinces the introduction of the improved Machinery for cleaning cotton.

2. Copies of the report should also be forwarded to the Resident at Hydrabad, with the view of bringing to the notice of His Highness the Nizam's Government the advantages which are likely to accrue to his subjects in the Raichore Dooab by the adoption of the measures which were contemplated by Captain Meadows Taylor to facilitate their procuring Dr. Forbes' Churka.

3. The Committee, of which Dr. Forbes is a member, appointed to enquire into the best means for preventing the adulteration of cotton will, the Governor in Council trusts, be able to recommend measures which will put a stop to the system of adulterating cotton described by Dr. Forbes, and so loudly complained of by all concerned in the trade; it is therefore, the Governor in Council considers, needless to refer further to this point for the present.

A. D. ROBERTSON,
Secretary to Government.

To

The REVENUE COMMISSIONER, S. D.,
DR. G. F. FORBES,
The COTTON FRAUD COMMISSION.

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on 01 February, 2020